What is claimed is:

1. A method for separating nucleic acid from a test sample comprising:
   a) contacting a test sample with a metal oxide support material and a binding buffer to form nucleic acid/metal oxide complexes, wherein the binding buffer comprises a chaotropic agent and a detergent;
   b) separating the complexes from the test sample; and
   c) eluting the nucleic acid from the metal oxide support material, thereby separating the nucleic acid from the test sample.

2. The method of claim 1 wherein the binding buffer further comprises a reducing agent.

3. The method of claim 1 wherein the binding buffer further comprises an organic solvent and the flashpoint of the binding buffer is greater than 130 degrees Fahrenheit.

4. The method of claim 2 wherein the binding buffer further comprises an organic solvent and the flashpoint of the binding buffer is greater than 130 degrees Fahrenheit.

5. The method of claim 1 further comprising a wash step after separating the complexes from the test sample and before eluting the nucleic acid from the metal oxide support material.

6. The method of claim 1 wherein eluting the nucleic acid from the metal oxide support material comprises

contacting the complexes with a reagent selected from water or a phosphate containing buffer.

7. The method of claim 6 further comprising the step of detecting the nucleic acid after the eluting the nucleic acid from the metal oxide support material.

8. The method of claim 7 further comprising the step of amplifying the nucleic acid after eluting the nucleic acid from the metal oxide support material and before detecting the nucleic acid.

9. The method of claim 7 wherein the nucleic acid is separated from a test sample comprising more than one source of nucleic acid.

10. The method of claim 9 wherein the nucleic acid separated from the test sample comprises RNA and DNA.

11. A kit for separating nucleic acid from a test sample comprising:
    a) metal oxide particles, wherein the metal oxide particles are capable of forming nucleic acid/metal oxide complexes when the metal oxide particles are contacted with nucleic acids;
    b) a binding buffer comprising
        (i) a chaotropic reagent, and
        (ii) a detergent; and
    c) an elution buffer comprising water.

12. The method of claim 8 wherein the step of amplifying the nucleic acid is performed without removal of the elution buffer.

13. The method of claim 1 wherein eluting the nucleic acid from the metal oxide support material comprises contacting the complexes with an elution buffer having a pH of between 6 and 10.

14. The method of claim 1 wherein eluting the nucleic acid from the metal oxide support material comprises contacting the complexes with an elution buffer having a pH of between 7 and 9.

15. The method of claim 1 wherein eluting the nucleic acid from the metal oxide support material comprises contacting the complexes with an elution buffer comprising a sodium phosphate or organophosphate compound such that the phosphate concentration in the elution buffer is from 10 mM to 300 mM.

16. The method of claim 1 wherein eluting the nucleic acid from the metal oxide support material comprises contacting the complexes with an elution buffer comprising a sodium phosphate or organophosphate compound such that the phosphate concentration in the elution buffer is from 10 mM to 100 mM.